

CLAIMS:

1. An optical data reading/writing device for reading/writing to an information layer, the device comprising at least a first radiation source for generating a radiation beam and an optical system for converging the radiation beam on the information layer and for converging the radiation beam reflected by the information layer onto a detector, wherein the optical system incorporates a wavelength sensitive structure which compensates for a temperature-induced defocusing of the optical system.
2. An optical data reading/writing device as claimed in claim 1, in which the wavelength sensitive structure is a part of a refracting pre-collimator, a beam-shaper or a sensor lens of the optical system.
3. An optical data reading/writing device as claimed in either claim 1 or claim 2, in which the wavelength sensitive structure is located out of a common path for the radiation beam.
4. An optical data reading/writing device as claimed in claim 3, in which the wavelength sensitive structure is located between the at least one radiation source and a pre-collimator/beam-shaper of the optical system.
5. An optical data reading/writing device as claimed in claim 3, in which the wavelength sensitive structure is located between a beam-splitter element and a detector element of the optical data reading/writing device.
6. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a grating structure.
7. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a stepped phase structure.

8. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a non-periodic phase structure.
9. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a diffractive structure.
10. An optical data reading/writing device as claimed in any preceding claim, which incorporates multiple radiation sources for reading/writing to different types or formats of information layer.
11. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure faces its respective radiation source.
12. A method of compensating for temperature-induced defocusing of an optical system in an optical reading/writing device comprises including a wavelength sensitive structure in the optical system, which wavelength sensitive structure compensates for said defocusing.
13. The method as claimed in claim 12, in which the wavelength sensitive structure faces a radiation source of the reading/writing device.
14. The method of either claim 12 or claim 13, which includes compensating for defocusing in at least two elements of the optical system.
15. The method of claim 14, in which each of said elements has an associated wavelength sensitive structure.
16. A refracting pre-collimator/beam-shaper/sensor lens for compensating for temperature defocusing incorporates a wavelength sensitive structure adapted to compensate for temperature defocusing.